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***Ileodictyon gracile*, new to Italy**

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ABSTRACT — The first record of *Ileodictyon gracile* from Italy is reported, accompanied by notes on the taxonomy, ecology, and distribution of this rare gasteromycete.

KEY WORDS — *Phallaceae*, rare Mediterranean fungi, gasteromycetoid fungi

Introduction

Gasteromycetoid fungi encompass terrestrial, epigeous and hypogeous and saprobic and ectomycorrhizal species. They are cosmopolitan but are more frequently found in warm, dry habitats (Kirk et al. 2008). Modern accounts of this interesting but taxonomically complex group is particularly limited in Italy where after the monograph by Petri (1909), only Sarasini (2005) has written on epigeous gasteromycetes in the country. In the absence of funding for studies of gasteromycetoid fungi, reports of undescribed species or new records from Italy are usually restricted to an occasional observation and/or generalized papers devoted to fungal diversity. This is the first record of *Ileodictyon gracile* in Italy, recently collected by us on the island of Pantelleria, Egadi Archipelago in Trapani province in south-eastern Sicily.

Materials & methods

Basidiomata were identified while fresh and microscopic features were observed in H₂O using a Leica microscope DMLB; spore measurements were based on 50 observations. Nomenclature follows Index Fungorum (<http://www.indexfungorum.org/Names/Names.asp>). The description is based both on personal observation, augmented by characters cited in Sarasini (2005) and Bougher & Syme (1998). The collection is curated in the fungal dried reference collection of the Herbarium Mediterraneum Panormitanum, Palermo (PAL).

Taxonomy

Ileodictyon gracile Berk., London J. Bot. 4: 69. 1845.

FIG. 1

Unripe basidiomata, sessile, irregularly rupturing at apex, egg-shaped, globose, subglobose or sphaerical, consistency jelly-like, 1.5 cm in diam. Peridium white, with long white unbranched rhizomorphs emanating from various points. Ripe basidiomata, sessile, with receptacle (lattice) up to 80–200 mm broad, white or cream, sphaerical or broadly ellipsoidal, sessile in a ruptured, white, membranous volva. Lattice of isodiametric-polygonal interspaces and flattened, firm struts that are grooved but not broadened at junctions and have glebal slime adhering to inside surface. Peridium in two layers with hyaline hyphae, 3.5–6.5 wide: exoperidium, white, mat, thin and membranous; endoperidium thick and gelatinous. Gleba olive-brown. Basal mycelium of white mycelia strands. Odour foetid or like sour milk. Spores hyaline, (4–)4.5–5.5(–6) × 1.8–2.4 μm, narrowly ellipsoidal, smooth, thin-walled. Basidia clavate, 15–25 × 4–6 μm. Cystidia absent.

SPECIMEN EXAMINED: ITALY. SICILY: province of Trapani, Egadi archipelago, Island of Pantelleria, Bugeber, 200 m, wood of *Quercus ilex* L. (*Fagaceae*) with shrubs of *Cistus salviifolius* L. (*Cistaceae*) in the ground cover, 2 Jan 2009, coll. R. Compagno, A. La Rosa & D. Lopez (PAL 00001/2011).

COMMENTS — Hosaka et al. (2006) recently reclassified gomphoid-phalloid fungi based on molecular phylogenetic characters, and Kirk et al. (2008) included the genus *Ileodictyon* Tul. & C. Tul. (*Phallaceae* Corda) in the *Phallales* E. Fisch. Berkeley (1845) separated the genus *Ileodictyon* from *Clathrus* P. Micheli ex L. principally based on possession of tubular (not cellular) ribs and a different volval morphology. Dring & Rose (1977) found that the virtually sphaeroidal symmetry further differentiated *I. gracile* and *I. cibarium* Tul. & C. Tul. from *Clathrus* s. str. *Ileodictyon gracile* is separated from *I. cibarium* based on morphological differences of the receptacle, intersections, and creases (Dring 1980).

Discussion

The so-called lattice or basket fungus is a saprotrophic gasteromycete usually collected on ground, commonly on the edge of tracks in forests and urban areas (Bougher & Syme 1998). *Ileodictyon gracile* has been frequently reported from Australia (Berkeley & Broome 1879, Cunningham 1944, Bougher & Syme 1998); May et al. 2003) also provide color and black and white illustrations of basidiomata and microscopic characters. The species also occurs in New Zeland, Samoa, Japan, Korea, and Africa (Calonge & Romero Zarco 1989, Dring & Rose 1977, Ka et al. 2004, Malençon & Bertault 1970, Pennycook & Galloway 2004). European distribution is restricted to Spain (Calonge & Romero Zarco

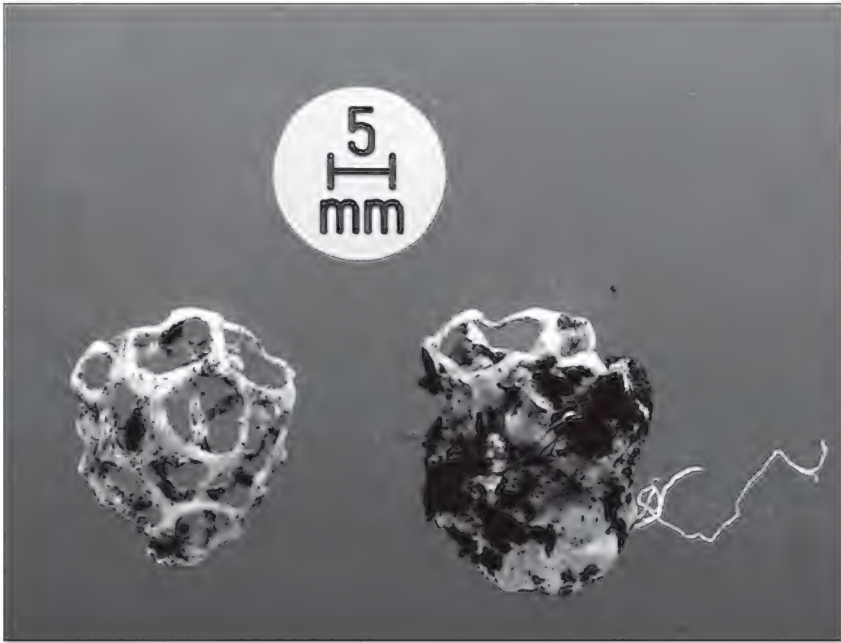


FIG. 1. Basidiomata of *Ileodictyon gracile*.

1989), Canary Islands (Chávez Barreto & Escobio García 2009), and Portugal (Pinto-Lópes 1942, 1944; Louro et al. 2009).

We found that *Ileodictyon gracile* shares similar habitats and phenology (winter) in Portugal, Spain, and Sicily. In Portugal it was collected under *Cistus ladanifer* L. in a *Quercus rotundifolia* Lam. forest, in Spain it was recorded in *Pinus pinea* L. woods with *Cistus salviifolius* as ground cover over sandy soil (Calonge & Romero Zarco 1989), and in Sicily in a *Q. ilex* wood with *C. salviifolius* shrubs. Other reported habitats include *Eucalyptus* reforestations (Chávez Barreto & Escobio García 2009), open ground near forest trails and urban areas (Bougher & Syme 1998), and on sandy soil in glades, woods, parks, and gardens (Sarasini 2005).

Our report represents the southernmost limit of the European distribution of *I. gracile*.

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